Thus, when one compares Shigenaga with the "Authenticate Card Routine 300" disclosed in Lee, which is discussed in more detail below, it is apparent that the cited documents are totally different. For example:

- Shigenaga teaches encrypting the random number prior to sending to card, whereas in contrast to Lee which teaches sending the random number unencrypted;
- Shigenaga teaches decrypting in the card IC, whereas in contrast Lee fails to teach decrypting in the card IC to authenticate the card;
- Shigenaga teaches sending the random number back to the terminal in unencrypted form, whereas in contrast Lee teaches sending the random number to the host in encrypted form; and,
- Shigenaga teaches that the terminal compares the received data to the stored random number, whereas in contrast Lee teaches that the data needs to be unencrypted prior to comparison.

Therefore, with such a large number of contrasting features of the respective systems, the applicant submits that a skilled person in the art would simply not be motivated to combine Shigenaga with Lee.

Furthermore, Shigenaga suggests that it is essential that the authentication is performed by comparing the actual processing time with the estimation processing time. Lee fails to suggest any such feature. Therefore, it is submitted that a person skilled in the art would simply not be motivated to combine Shigenaga which relies on comparing processing times with Lee which simply compares random numbers.

Additionally, a skilled person in the art would not be motivated to combine Shigenaga with Lee since both are directed to encrypting and decrypting random numbers at totally opposite ends of the system (ie. at the host or at the card).

There is no suggestion or motivation in either Lee or Shigenaga that two opposing authentication techniques could be combined since there is a large number of contrasting features. Additionally, there is no suggestion or motivation in the knowledge generally available to one of ordinary skill in the art that a public key used for encrypting could also be used for decrypting data for authenticating an untrusted authentication chip. Furthermore, there is no suggestion or motivation in the knowledge generally available to one of ordinary skill in the art that a private key used for decrypting could also be used for encrypting data for authenticating an untrusted authentication chip.

Therefore, there is no motivation to combine Shigenaga with Lee for authenticating an untrusted authentication chip.

In any event, if Shigenaga was combined with Lee, obviousness can only be established by combining or modifying teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

On pages 3 to 4 of the Office Action, the Examiner has stated:

> "Shigenaga does no disclose applying, in the trusted authentication chip, a key one way function to the second decrypted outcome using the second key to produce an encrypted outcome...Lee discloses the IC card performs both encrypt and decrypt